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SCIENCE:

A WEEKLY RECORD OF SCIENTIFIC
PROGRESS.

JOHN MICHELS, Editor.

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SATURDAY, JULY 16, 1881.

We are indebted to Professor Edward S. Holden for a series of seven interesting drawings of the recently discovered Comet; they are now being engraved and will appear in "SCIENCE" next week.

These drawings were made by Professor Holden from observations made with the 15-inch equatorial of the Washburn Observatory.

We have received a copy of the instructions furnished to the officers in command of the expeditionary force to Lady Franklin Bay, which appear to have given general satisfaction, and probably suffice for all the purposes of the expedition. Still we regret to find that the services of a naturalist have not been considered requisite, and that no provision appears to have been made for collecting specimens and information respecting the Fauna and Flora of the Polar regions. A microscope is not even added to the list of apparatus provided for the use of the expedition.

Mr. Alfred Russell Wallace in his last work, "Island Life," observes that there is an enormous waste of labor and money with comparatively scanty and unimportant results to natural history, of most of the great scientific voyages of the various civilized governments during the present century. All these expeditions combined have done far less than private collectors in making known the products of remote lands and islands. They have brought home, he asserts, fragmentary collections, made in widely scattered localities and these have been usually described in huge folios, whose value is often in inverse proportion to their bulk and cost. The same species have been collected again and again, often described several times, and, not infrequently stated to be from places they never inhabited. The result of this wretched system, says Mr. Wallace, is, that the productions of some of the most frequently visited and most interesting islands on the globe are still very imperfectly known, while their native plants

and animals are being yearly exterminated. The remedy suggested by Mr. Wallace, is that resident naturalists at a very small annual expense, should be appointed, who, he considers, would do more for the advancement of knowledge in this direction, than all the expensive expeditions which have again and again circumnavigated the globe.

We are of course aware that most of the many recent expeditions to the polar regions have been specially organized for the promotion of the physical sciences, but the value of an expert naturalist on such occasions should not be neglected, and wherever permanent stations are established the naturalist may be expected to do good work, and even occasionally interpret natural phenomena which are sometimes inexplicable to the physicist.

The comet has been observed here (with the exception of June 27) on every night since June 23, although clouds have often considerably hindered the work.

In addition to the measurements of position, the light of different parts of the comet has been photometrically determined. This work, very probably, has been undertaken only at this Observatory. The instrument employed for the purpose is one which has already been extensively used here for measuring the light of nebulae. The results of these observations are expressed in stellar magnitudes on Pogson's logarithmic scale, regarding the light of a star of the given magnitude as diffused over a circle 1' in diameter, the brightness of which would then be equal to that of the observed portion of the nebula or comet. On the first five nights of the present month, various parts of the coma and tail have thus been observed. The result, from a provisional reduction, is as follows:

Coma, 0.5	south of nucleus,	magnitude	6.9
" 0.5	north of	"	7.8
Tail, 0.5	"	"	9.6
" 1.0	"	"	10.3
" 2.0	"	"	11.0
" 3.0	"	"	11.2
" 4.0	"	"	11.6

I add the corresponding results, also from provisional reductions, for some other comets and nebulae:

Palisa's Comet, 1879 <i>d</i>magnitude	8
Comet, 1880 <i>d</i>	"	7
Webb's Planetary Nebula, DM. + 41°4004	"	4.7
Brightest part of great nebula in Orion (20 points in which have been observed),....	"	8.0
Nebula G. C. 4487,	"	11.2
" G. C. 4802,	"	11.3

On June 28th, and on July 1, 3, 5 and 6, the co-ordinates of a number of points in the border of the comet's tail were observed for the purpose of determining its form.

EDWARD C. PICKERING.

HARVARD COLLEGE OBSERVATORY,
Cambridge, U. S., July 6th, 1881.